WHAT IS CLAIMED IS:

1. A microswitch array comprising a plurality of electric microswitches, each member of the plurality of microswitches being in first electrode/semiconductor/ second electrode layer form with the semiconductor layer being a unit body shared by the members of the array.

2. The microswitch array of claim 1 wherein the plurality of microswitches are configured in an x-y-addressable array.

3. The microswitch array of claim 1 wherein the semiconductor is an inorganic semiconductor.

4. The microswitch array of claim 1 wherein the semiconductor is an organic semiconductor.

5. The microswitch array of claim 2 wherein the semiconductor is an organic semiconductor.

6. The microswitch array of claim 4 wherein the organic semiconductor is selected from the group consisting of conjugated organic semiconducting polymers, conjugated organic semiconducting polymer blends, semiconducting organic molecules, semiconducting organometallic molecules, molecular blends or semiconducting organic molecules and multilayer structures of such materials.

7. The microswitch array of claim 1 wherein at least one of the electrodes is a metallic electrode.

8. The microswitch array of claim 1 wherein at least one of the electrodes comprises a conductive organic polymer.

9. The microswitch array of claim 1 wherein at least one of the electrodes comprises a buffer layer adjacent to the semiconductor layer.

10. The microswitch array of claim 1 wherein at least one of the electrodes is transparent.

11. A three dimensional microswitch array comprising a stack of a plurality of the arrays of claim 1.

12. A three dimensional microswitch array comprising a stack of a plurality of the arrays of claim 2.

13. A multi-element voltage-switchable sensor array comprising a microswitch array of claim 1 with individual elements of the array connected in series with individual members of a plurality of sensor elements, said sensor elements producing an electrical signal in response to a stimulus being sensed.

14. The multi-element voltage-switchable sensor array of claim 13 wherein the sensors are thin layer sensors, themselves being in first sensor electrode/sensor semiconductor/ second sensor electrode layer form.

15. The multi-element voltage-switchable sensor array of claim 14 wherein the sensor semiconductor is an organic semiconductor.

16. The multi-element voltage-switchable sensor array of claim 15 wherein the microswitch and the sensor share a common electrode.

17. A multi-element voltage-switchable sensor array comprising a microswitch array of claim 5 with individual elements of the array connected in series with individual members of a plurality of sensor elements, said sensor elements producing an electrical signal in response to a stimulus being sensed.

18. The multi-element voltage-switchable sensor array of claim 17 wherein the sensors are thin layer sensors, themselves being in first sensor electrode/sensor semiconductor/ second sensor electrode layer form.

19. The multi-element voltage-switchable sensor array of claim 18 wherein the sensor semiconductor is an organic semiconductor.

20. The multi-element voltage-switchable sensor array of claim 19 wherein the microswitch and the sensor share a common electrode.

21. The multi-element voltage-switchable sensor array of claim 15 additionally comprising a supporting substrate.

22. The multi-element voltage-switchable sensor array of claim 15 wherein the sensor senses light.

23. The multi-element voltage-switchable sensor array of claim 22 wherein the second sensor electrode is transparent to the light being sensed.

24. The multi-element voltage-switchable sensor array of claim 22 wherein the light comprises visible light.

25. The multi-element voltage-switchable sensor array of claim 22 wherein the light comprises ultraviolet light.

26. The multi-element voltage-switchable sensor array of claim 22 wherein the light comprises infrared light.

27. The multi-element voltage-switchable sensor array of claim 15 wherein the sensor senses X-rays.

28. The multi-element voltage-switchable sensor array of claim 15 wherein the sensor senses ionized high energy particles selected from electrons, beta particles and gamma ray radiation.

29. The multi-element voltage-switchable sensor array of claim 15 wherein the sensor senses surface pressure.

30. The multi-element voltage-switchable sensor array of claim 15 wherein the sensor senses surface temperature.

31. The multi-element voltage-switchable sensor array of claim 13 made in two dimensional x-y addressable form.

32. A method for driving an individual member of a multi-element voltage-switchable sensor array

the sensor array comprising microswitch array having a plurality of individual elements of the array connected in series with individual members of a plurality of sensor elements and a bias voltage source,

the microswitch array comprising a plurality of electric microswitches each member of the plurality of microswitches being in first electrode/semiconductor/second electrode layer form with the semiconductor layer being a unit body shared by the members of the array, the plurality of microswitches defined by a row of first electrodes and a column of second electrodes configured in an x-y-addressable array, and the x-y addressable position of each individual microswitch being uniquely defined by a particular first electrode defining the x coordinate and a particular second electrode defining the y coordinate, and

said sensor elements producing an electrical signal in response to a stimulus being sensed,

the method comprising

applying a positive bias voltage greater than the microswitch's turn on voltage across the particular first electrode and particular second electrode defining the individual member, leaving the remainder of the first electrodes and the remainder of the second electrodes floating and

reading the electrical signal produced by the particular sensor element.

33. The method of claim 32 wherein multiple members of the array are driven serially.

34. A method for driving an individual member of a multi-element voltage-switchable sensor array

the sensor array comprising microswitch array having a plurality of individual elements of the array connected in series with individual members of a

plurality of sensor elements and a bias voltage source, said bias voltage source capable of providing a "high bias voltage state, a 0 bias voltage state and a "low" bias voltage state,

the microswitch array comprising a plurality of electric microswitches each member of the plurality of microswitches being in first electrode/semiconductor/second electrode layer form with the semiconductor layer being a unit body shared by the members of the array, the plurality of microswitches defined by a row of first electrodes and a column of second electrodes configured in an x-y-addressable array, and the x-y addressable position of each individual microswitch being uniquely defined by a particular first electrode defining the x coordinate and a particular second electrode defining the y coordinate, and

said sensor elements producing an electrical signal in response to a stimulus being sensed,

the method comprising applying the positive bias to the particular first electrode and the negative bias voltage to the particular second electrode defining the individual member thereby exceeding said member's turn on voltage, and applying the negative bias to the remainder of the first electrodes or applying the positive bias to the remainder of the second electrodes thereby leaving the remainder of the plurality of individual elements in an off condition and

reading the electrical signal produced by the particular sensor element.

35. The method of claim 34 wherein multiple members of the array are driven serially.

36. A method for driving a series of individual member of a multi-element voltage-switchable sensor array

the sensor array comprising microswitch array having a plurality of individual elements of the array connected in series with individual members of a plurality of sensor elements and a bias voltage source, said bias voltage source capable of providing a first bias voltage and a second bias voltage the difference between the two bias voltages exceeding the turn on voltage for the elements of the microswitch array ,

the microswitch array comprising a plurality of electric microswitches each member of the plurality of microswitches being in first electrode/semiconductor/second electrode layer form with the semiconductor layer being a unit body shared by the members of the array, the plurality of microswitches defined by a row of first electrodes and a column of second electrodes configured in an x-y-addressable array, and the x-y addressable position of each individual microswitch being uniquely defined by a particular first electrode defining the x coordinate and a particular second electrode defining the y coordinate, and

said sensor elements producing an electrical signal in response to a stimulus being sensed,

the method comprising applying the first bias voltage all the first electrodes and applying the second bias voltage bias to a particular second electrode defining a particular column of individual elements thereby turning on the particular column of elements and leaving the remainder of the plurality of individual elements in an off condition and

reading the electrical signal produced by the particular column of sensor elements.

37. The method of claim 33 wherein the reading of the electrical signal produced by the particular column of sensor elements is carried out with a digital shift register or a with a digital decoder to produce a series of electrical signals

corresponding to the electrical signals generated by the series of sensor elements in the particular column.

38. A plurality of sensor arrays of claim 13 stacked to form a three dimensional matrix.

39. A plurality of sensor arrays of claim 13 stacked to form an integrated sensor array with multiple sensing functions.

40. The method for producing an array of claim 6 comprising laying down an electrode-semiconductor-electrode electric microswitch on top of an array of sensor elements.

41. The method for producing an array of claim 6 comprising laying down an array of sensor elements on top of an array of electrode-semiconductor-electrode electric microswitches.